

Rhetorical Naturalisation in the History of Philology: August Schleicher, Friedrich Max Müller and Their Critics

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Introduction

An intellectual history of the humanities can only fulfil its true critical purpose if, in examining debates from the past, it can say something important about the present. This essay examines an episode in the history of nineteenth-century *philology* – in German: *Sprachwissenschaft*, or what Friedrich Max Müller termed ‘The Science of Language’ – an episode that appeared to reach its resolution towards the end of that century, but which still contains implications that are of relevance today. The decisive issue in this debate is whether philology should be regarded as a natural science that proceeds according to empirically verifiable laws. Two of the key actors in this debate – August Schleicher (1821-1861) in Germany and Friedrich Max Müller (1823-1900) in Britain – sought to mobilise their own versions of Darwinian natural selection to claim that something like a ‘Science of Language’ can be formulated in a way analogous to evolutionary biology.² At the risk of coining German-inspired neologisms and of using certain English words in a manner that departs from their everyday senses, I will argue that Schleicher’s and Müller’s claims were made as part of what I will call the rhetoric of *empiricisation* (German: *Empirisierung*) and *naturalisation* (*Naturalisierung*), rather than on the basis of strictly logical scientific argumentation, since neither Schleicher nor Müller seem to have understood what Darwin meant by natural selection, and both of their positions fluctuated in order to accommodate Darwin and to harness his scientific prestige, even if

¹ This paper was originally published in German as “Rhetorische Naturalisierung in der Sprachwissenschaft: August Schleicher, Friedrich Max Müller und ihre Kritiker,” in *Empirisierung des Transzendentalen. Erkenntnisbedingungen in Kunst und Wissenschaft 1850-1920*, ed. Philip Ajouri and Benjamin Specht (Göttingen: Wallstein, 2019), 191-222. It emerged from the German Research Foundation (DFG) research group *Empirisierung des Transzendentalen*, directed by Ajouri and Specht, which met, roughly in the format of the legendary *Poetik und Hermeneutik* research group, over a number of sessions between 2014 and 2017. The group produced the essay collection cited above, as well as a special section of *Scientia Poetica* 19, no. 1 (2015) and a special issue of the journal *KulturPoetik* 17, no. 1 (2017). Some of the material presented in this paper also appears in: Angus Nicholls, “A Germanic Reception in England: Friedrich Max Müller’s Critique of Darwin’s *Descent of Man*,” in *The Literary and Cultural Reception of Charles Darwin in Europe*, vol. 3, ed. Thomas F. Glick and Elinor Shaffer, (London: Bloomsbury, 2014,) 78-100; and in John Davis and Angus Nicholls, “Friedrich Max Müller: The Career and Intellectual Trajectory of a German Philologist in Victorian Britain,” *Publications of the English Goethe Society* 85, no. 2-3 (2016): 67-97. All translations from the German in this essay are my own.

² Given the historical focus of this essay, dates of birth and death are supplied for the key figures discussed, in order to give a sense of generational relations between thinkers.

Müller's religious convictions would later lead him into an at times bitter public dispute with Darwin and his followers on the question of human descent.³

It is here where the neologism *empiricisation* requires further elaboration. As Philip Ajouri and Benjamin Specht note in their introduction to a special issue of *Scientia Poetica* on this topic, *Empirisierung* is a term used to describe a process through which fields of knowledge attempted to render themselves scientific – in the sense of *natural scientific*, or of 'physical science' in the language of mid nineteenth-century British materialism and positivism – in the period leading up to and following what came to be known as the great crisis or "crash" ("großer Krach") of German idealism.⁴ Ajouri and Specht note here the importance of Darwin's thought in general for these processes of *Empirisierung*. Yet here they also observe that around the 1870s in Germany, Darwinism still tended to be understood through the lenses of idealism and the philosophy of history, namely as describing a process of teleological or dialectical development, rather than as a theory that combines random variation with processes of selection within specific environmental contexts.⁵

The case of Darwin, or of a vague and generalised 'Darwinism,' points to an important distinction that must be made between *Empirisierung* on the one hand and naturalisation or *Naturalisierung* on the other. In this context, the latter term decidedly does not mean to adopt the citizenship of the country in which one lives as an immigrant (as it normally does in English), but it does nonetheless share the sense of *legitimation* or *normalisation* associated with this word. Michael Heidelberger's contribution to the aforementioned special issue of *Scientia Poetica* offers a useful discussion of this term. *Naturalisierung*, he argues, refers to an incremental process through which phenomena are increasingly explained in terms of physical forces resident in nature or what William James (1842-1910) termed "blind physical forces."⁶

³ Müller's debate with Darwin on the origin of language has generated an extensive secondary literature which cannot be discussed here; for a brief overview that refers to the numerous secondary sources, see Davis and Nicholls, "Friedrich Max Müller," 90-95.

⁴ This now well-known phrase was coined by Hans Vaihinger (1852-1933) in *Hartmann, Dühring und Lange. Zur Geschichte der deutschen Philosophie im XIX. Jahrhundert. Ein kritischer Essay* (Iserlohn: Baedeker, 1876), 1.

⁵ Philip Ajouri and Benjamin Specht, "Empirisierung des Transzendentalen. Epistemologische Vorraussetzungen und Erscheinungsformen der Moderne in Wissenschaft, Literatur und Kunst um 1900," *Scientia Poetica* 19, (2015): 181-204 (here: 184-187). See also Philip Ajouri, "Darwinism in German Speaking Literature (1859-c.1890)," in *The Literary and Cultural Reception of Charles Darwin in Europe*, vol. 3, ed. Thomas F. Glick and Elinor Shaffer (London: Bloomsbury, 2014), 17-45; here: 17-25.

⁶ William James, *Pragmatism: A New Name for Some Old Ways of Thinking* (New York: Longman, Green and Co. 1907), 96.

Here the purpose of *Naturalisierung* is to eliminate or reduce speculative or non-empirical explanations, especially those which are not ‘blind’ in that they imply a directedness or teleology attributed by human minds to nature.⁷

Heidelberger helpfully points out that Immanuel Kant’s (1724-1804) critical philosophy – which only allows the “concept of natural purposes” (“Begriff der Naturzwecke”) to be used in the natural sciences as a heuristic guiding principle, describing it as a “Fremdling in der Naturwissenschaft” (“stranger in the natural sciences”) – subscribed to this form of *Naturalisierung*.⁸ For Kant, according to Heidelberger, naturalisation is completely acceptable within the realm of human experience (the realm of *phenomena*): “Außerhalb des transzendentalen Bereichs ist der Naturalismus für Kant nicht nur nicht verboten, sondern sogar gefordert” (“outside of the transcendental realm, naturalism is for Kant not only not forbidden, rather it is even stipulated”).⁹ But the example of Kant demonstrates that not all phenomena can be subjected to complete physical-causal (that is: completely *empirical*) explanation. There are, thinks Kant, also phenomena that *condition* our perception of phenomena and which therefore must be transcendently interpreted, such as mathematics, which serves as the *a priori* basis for empirical natural sciences such as physics, and here one could also mention the role played by transcendental elements of reason deployed in the cognition of organisms as natural purposes in biology. *Naturalisierung* thus presents itself as a unique phenomenon – differentiated from empiricism – since it can only ever be partial, and is more akin to a *process* than a finished state of affairs, a movement towards the goal of full *Empirisierung*. Although, according to Heidelberger, every *Naturalisierung* presents itself as a would-be *Empirisierung*, this process of rendering the transcendental empirical is not automatically complete or even completable in many cases.¹⁰ Similarly, Gillian Beer, in her important book on the literary reception of Darwin, describes “naturalisation” as marking a transition from the ‘as if’ or speculative elements of a theory to that theory’s eventual acceptance as an objectively testable cognition of empirical things existing in the real world.¹¹

⁷ Michael Heidelberger, “Naturalisierung des Transzendentalen in der Sinnesphysiologie von Hermann von Helmholtz,” *Scientia Poetica* 19 (2015): 205-233 (here: 206, 209).

⁸ Immanuel Kant, *Kritik der Urteilskraft*, in *Werkausgabe*, 12 vols., ed. Wilhelm Weischedel (Frankfurt am Main: Suhrkamp 1968), 10: 340 (§72).

⁹ Heidelberger, “Naturalisierung des Transzendentalen,” 207.

¹⁰ Heidelberger, “Naturalisierung des Transzendentalen,” 208.

¹¹ Gillian Beer, *Darwin’s Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction* (1983; Cambridge: Cambridge University Press, 2000), 2

Like Ajouri and Specht, Heidelberger also notes that a general philosophy of ‘Darwinism’ contributed to processes of *Naturalisierung* during the latter stages of the nineteenth century, pointing to Schleicher’s and Ernst Haeckel’s (1834-1919) monism. *Naturalisierung*, according to Heidelberger, may be both ontological and methodological. Ontological *Naturalisierung* implies a general worldview in which material causation is favoured over non-material explanations, while methodological *Naturalisierung* seeks to substantiate this worldview through the methods of the empirical natural sciences.¹² In their introduction to the *Scientia Poetica* issue, Ajouri and Specht point out that *Sprachwissenschaft* or philology was one of the main fields in which *Empirisierung* became a matter of key importance.¹³ But in the cases of Schleicher and Müller, we are arguably dealing more with would-be *Naturalisierung* than with *Empirisierung*, since neither thinker developed an empirical method through which to test their linguistic theories. To Heidelberger’s categories of ontological and methodological *Naturalisierung* I would add one more descriptor: *rhetorical*. This is because there is significant doubt as to whether Schleicher’s and particularly Müller’s uses of Darwin implied even a merely *ontological* commitment to what Darwin understood by natural selection; moreover, in both cases, and as will be shown below, a *methodological* commitment to Darwinian natural selection is completely out of the question. In short: I will argue that with respect to Schleicher and Müller, ‘Darwinism’ is probably not an ontology; rather it is a *metaphor* or an *analogy* that is used *rhetorically* to characterise philology as a natural science, within the broader context of increasing disciplinary competition between the humanities and the natural sciences.

The central metaphor used by Schleicher and Müller to graft ‘Darwinism’ onto linguistics was that of the *organism*. In this philological context, the word organism was not deployed merely in the heuristic or regulative sense favoured by Kant in his *Kritik der Urteilskraft* (*Critique of the Power of Judgement*, 1790).¹⁴ Rather, in Schleicher’s and Müller’s usage, this word amounts to an ontological *assertion* with realistic and positivistic (that is: natural scientific) pretensions. If, following Hans Blumenberg, we can claim that pre-rational or metaphorical thinking can play an orienting role in scientific research programmes, albeit a role which cannot necessarily be cashed out in the manner demanded of ‘clear’ and ‘distinct’

¹² Heidelberger, “Naturalisierung des Transzendentalen,” 210-211, 206.

¹³ Ajouri and Specht, “Empirisierung des Transzendentalen,” 190-192.

¹⁴ See, in particular, §§64-65.

concepts by René Descartes (1596-1650),¹⁵ then one important aspect of philology during the second half of the nineteenth century can be found in the progressive decline in plausibility of this language-as-organism metaphor. The consequences of this decline for the scientific status of philology were immense, precisely because the metaphor of the organism was so heavily laden with the scientific pathos of *Naturalisierung*. At stake was nothing less than the status of philology as a supposed natural science.

The use of biological metaphors – the *Stamm* (stem) *Wurzel* (root) – to describe language development has a history in German comparative philology that goes back to the beginning of the nineteenth century.¹⁶ As early as 1808, Friedrich Schlegel (1772-1829) claimed that comparative linguistics could shed light on the phenomenon of language in the same way that comparative anatomy had done in the natural sciences,¹⁷ while Franz Bopp (1791-1867) opens his *Vergleichende Grammatik* (*Comparative Grammar*, 1833) by arguing that languages are organisms characterised by physical and mechanical laws.¹⁸ In *Die Deutsche Sprache* (*The German Language*, 1860), Schleicher continues and intensifies this tradition by claiming, in a similar way to Bopp, that languages are “Naturorganismen” (natural organisms) not only because they can be classified according to “Gattungen” or (genera or species), but also on account of their alleged independent growth according to natural laws that are beyond human control.¹⁹ Following his encounter with Darwin, and in light of Darwin’s rising prestige within British science, Müller would make similar claims: language “roots” are for Müller the “phonetic cells” that one can find “in the crucible after the most careful analysis of human language,” and Müller describes this scientific procedure as amounting to a “Biology of language.”²⁰ In Müller’s “Science of Language” – as in the case of Schleicher – language is described as a natural phenomenon that grows beyond human control.²¹

¹⁵ Hans Blumenberg, *Paradigmen zu einer Metaphorologie* (1960; Frankfurt/Main, Suhrkamp, 1998).

¹⁶ See Andreas Gardt, *Geschichte der Sprachwissenschaft in Deutschland Vom Mittelalter bis ins 20. Jahrhundert* (Berlin: Walter de Gruyter, 1999), 268-281.

¹⁷ Friedrich Schlegel, *Über die Sprache und Weisheit der Indier* (Heidelberg: Mohr und Zimmer 1808), 28.

¹⁸ Franz Bopp, *Vergleichende Grammatik des Sanskrit, Zend, Griechischen, Lateinischen, Litthauischen, Gothischen und Deutschen*, 3 vols, (Berlin: Dümmler, 1833), 1: iii.

¹⁹ August Schleicher, *Die Deutsche Sprache* (Stuttgart: Cotta 1860), 33.

²⁰ Friedrich Max Müller, “Lectures on Mr. Darwin’s Philosophy of Language, Third Lecture,” *Fraser’s Magazine*, [London], July 1873, 2-24; here: 2-3.

²¹ Müller, *Lectures on the Science of Language*, First Series (London: Longman, Green, Longman and Roberts, 1861), 36.

The problem that was quickly identified by Schleicher's and Müller's critics lies precisely in the fact that languages are not empirical objects in the same way as cells or plants. Moreover, while changes in a language may be beyond the control of any individual speaker, human discourse communities nonetheless play a role in how languages develop. For these important reasons, the language-as-organism hypothesis could only lay claim to a metaphorical status. As we shall see, these arguments were made against Schleicher by Heymann Steinthal (1823-1899), and against both Schleicher and Müller by William Dwight Whitney (1827-1894). Both Steinthal and Whitney were instrumental in exposing Schleicher's and Müller's rhetoric of *Naturalisierung*, while also moving linguistics towards the model which became enshrined in the pages of Ferdinand de Saussure's (1857-1913) posthumously published *Cours de linguistique générale* (*Course in General Linguistics*, 1916). This model would move away from claiming that languages are akin to organic and empirical objects, and would instead focus on languages as contingent cultural institutions determined by usage in discourse communities.

The contemporary relevance of this essay for my own discipline of literary studies lies in the fact that Saussure's model of linguistics, which emphasises precisely the *arbitrary and institutional* character of language as opposed to any purported *natural* status, came to function as one of the dominant paradigms for literary theory during the twentieth-century, underpinning not only Russian formalism – Roman Jakobson (1896-1982), Vladimir Propp (1895-1970), Mikhail Bakhtin (1895-1975), and others – but also French structuralism and poststructuralism: Roland Barthes (1915-1980), Jacques Derrida (1930-2004) and their many North American adherents. In the recent 'culture wars' of literary studies, it is precisely structuralism and post-structuralism that have been targeted by literary theorists who once again wish to provide the discipline with an empirical or natural scientific underpinning by making two important claims about literary texts and more generally about narrative: first, that narratives may originally have provided a means of orientation towards reality that would have aided survival and therefore have been an object of natural selection²²; and second: that literary texts are even best *interpreted* in relation to this purported evolutionary function.²³ While the first claim may generally be plausible if unprovable and largely trivial for the purposes of interpretation, the second would reduce literary texts to expressing a substrate of biological functions, suggesting, to cite just one notorious example, that Jane Austen's *Pride and*

²² See, for example, Karl Eibl, *Anima Poeta: Bausteine der biologischen Literatur- und Kulturtheorie* (Paderborn: Mentis, 2004).

²³ Joseph Carroll, *Literary Darwinism: Evolution, Human Nature and Literature*, (London: Routledge, 2004).

Prejudice is primarily concerned with sexual selection.²⁴ Today, as in the second half of the nineteenth century, the Sirens' song of *Naturalisierung* remains attractive to literary scholars wishing to harness the prestige of the natural sciences.

These broader issues to do with the history of literary studies cannot be explored in depth here.²⁵ But on the basis that nineteenth-century philology was one of the primary generative forces behind modern literary studies, my purpose here is to examine to what extent philology sought to accommodate, and to what extent it eventually resisted, the empirical impulses of the Darwinian revolution. The two thinkers treated here – August Schleicher and Friedrich Max Müller, both German Sanskritists or Indo-Germanists by training, the former working in Jena and the latter in Oxford – took very different approaches to Darwin. Schleicher wanted to transform philology into what he called “die Glottik” or *glottics*: a purported natural science that deals with languages as “organisms.”²⁶ For Müller, by contrast, much more was at stake than simply bolstering philology with or defending it against Darwinism; in fact, his eventual and paradoxical aim was to use a Kantian version of philology to refute Darwin's theory of human descent, while at the same time maintaining that natural selection is operative in language change and that the study of language is a science akin to biology.

The Fate of Philology During the Second Half of the Nineteenth Century

As James Turner has shown in a recent publication, the broader relevance of Schleicher and Müller to the history of humanities lies in the fact that philology functioned as the forerunner to literary studies in both Germany and Britain.²⁷ For this reason, many of the empirical and would-be natural scientific impulses found in philology of the 1860s and 1870s carried over into literary studies proper when it began to emerge as an academic discipline in the 1880s in both nations. Here two brief examples must suffice to show the extent to which, at its inception, literary studies both modelled itself on philology and saw the need to establish itself as being akin to a natural science.

²⁴ See Carroll's chapter “Human Nature and Literary Meaning: A Theoretical Model Illustrated with a Critique of *Pride and Prejudice*,” in *Literary Darwinism*, 187-218.

²⁵ See Angus Nicholls, “Scientific Literary Criticism in the Work of Wilhelm Dilthey and Matthew Arnold,” *Comparative Critical Studies* 8, no. 1 (2011): 7-31.

²⁶ August Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft. Offenes Sendschreiben an Herrn Dr. Ernst Hæckel*, 2nd ed. (1863; Weimar: Böhlau, 1873), 7.

²⁷ See James Turner, *Philology: The Forgotten Origins of the Modern Humanities*, (Princeton, NJ: Princeton University Press, 2014). See also Tuska Benes, *In Babel's Shadow: Language, Philology and the Nation in Nineteenth-Century Germany* (Detroit: Wayne State University Press, 2008).

Wilhelm Scherer (1841-1886), arguably the most important Germanist of the late nineteenth-century,²⁸ is the most prominent example of this tendency in German criticism of the 1880s. A brief examination of the introduction to his posthumous *Poetik* (1888) demonstrates the following tendencies: the preference for an inductive and value-free approach to the objects of literary study in opposition to the making of speculative value judgements; a focus on the text as a product that emerges under particular conditions, and which demands a science that analyses the empirical “Bedingungen der Production” (“conditions of production”), which are chiefly history and biography; and finally a rehabilitation of philology as a science of comparison involving classification according to genera or *Gattungen* and “die Methode der wechselseitigen Erhellung” (“the method of reciprocal or comparative elucidation”).²⁹ Scherer’s method was developed in collaboration with the early Wilhelm Dilthey (1833-1911) and in relation to what Dilthey called the “psychische Tatsachen” (“psychological facts”) to be found in the Goethe-Archive in Weimar,³⁰ facts which both Dilthey and Scherer thought would serve as the basis of a positivist literary criticism.³¹

During the same decade that saw the publication of Scherer’s *Poetik*, a similar case of would-be scientific criticism was formulated in Britain, this time with Shakespeare as its object. In his *Shakespeare as a Dramatic Artist* (1885), the prominent extramural educator and public lecturer Richard Green Moulton (1849-1924), an employee firstly of Cambridge University and later of the then new University of Chicago,³² seeks to “claim for Criticism a position amongst the Inductive Sciences.” For Moulton, just as “botany deals inductively with the phenomena of vegetable life and traces the laws underlying them [...] so there is a criticism not less inductive in character which has for its subject-matter literature.”³³ As in the case of

²⁸ This is the judgement of Hans-Harald Müller in his portrait of Scherer. Hans-Harald Müller, “Wilhelm Scherer (1841-1886)” in *Wissenschaftsgeschichte der Germanistik in Porträts*, ed. Christoph König, Hans-Harald Müller and Werner Röcke (Berlin: De Gruyter, 2000), 80-94; here: 80.

²⁹ Wilhelm Scherer, *Poetik. Mit einer Einleitung und Materialien zur Rezeptionsanalyse*, ed. Gunter Reiss, (1888; Tübingen: Niemeyer, 1977), 48-50.

³⁰ Wilhelm Dilthey, “Über die Einbildungskraft der Dichter,” in *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* 10 (1878): 42-104; here: 47.

³¹ For context, see Wolfgang Kaltenbrunner, “Literary Positivism? Scientific Theories and Methods in the Work of Sainte-Beuve (1804-1869) and Wilhelm Scherer (1841-1886),” *Studium* 3 (2010): 74-88.

³² Alexandra Laurie, “Richard Green Moulton (1849-1924),” in *Oxford Dictionary of National Biography*, online: <https://0-doi-org.catalogue.libraries.london.ac.uk/10.1093/ref:odnb/48165> [Accessed 4 September 2019].

³³ Richard Green Moulton, *Shakespeare as a Dramatic Artist: A Popular Illustration of the Principles of Scientific Criticism* (Oxford: Oxford University Press, 1885), vi, 1.

Scherer, we find in Moulton the total avoidance of value judgements. For Moulton, there are two essential types of literary critic: “the judge and the investigator.” The former makes speculative judgements about “what ought to be” (i.e., judgements of taste), while the latter scientifically enquires into “what is.” The judge is subject to unfounded and *a priori* notions about literary value, while the investigator works inductively, analysing literary works to “get a close acquaintance with their phenomena,” and to identify new “species.”³⁴

The common themes found in both Scherer and Moulton – namely the avoidance of value judgements and the focus upon induction and classification – are broadly post-Darwinian in character. Because Darwin showed that natural and even human development can be explained without recourse to teleological ideas or notions of purpose, literary critics also felt the need to analyse literary works not solely in relation to their aesthetic value and purpose, but more in terms of their causation, formal properties, and modes of functioning. My claim is that this movement towards an inductive and empirical method in literary studies was predated by a similar tendency in philology during the 1860s and 1870s. Schleicher and Müller are cases in point, though the story that I will tell is far from being one of uniform accommodation of natural scientific materialism.

August Schleicher: From Hegel to Darwin via Haeckel

Today August Schleicher is best known as the developer of the *Stammbaum* theory of language development and his related efforts to reconstruct an *Indogermanische Ursprache* (Indo-Germanic primal language).

³⁴ Moulton, *Shakespeare as a Dramatic Artist*, 2

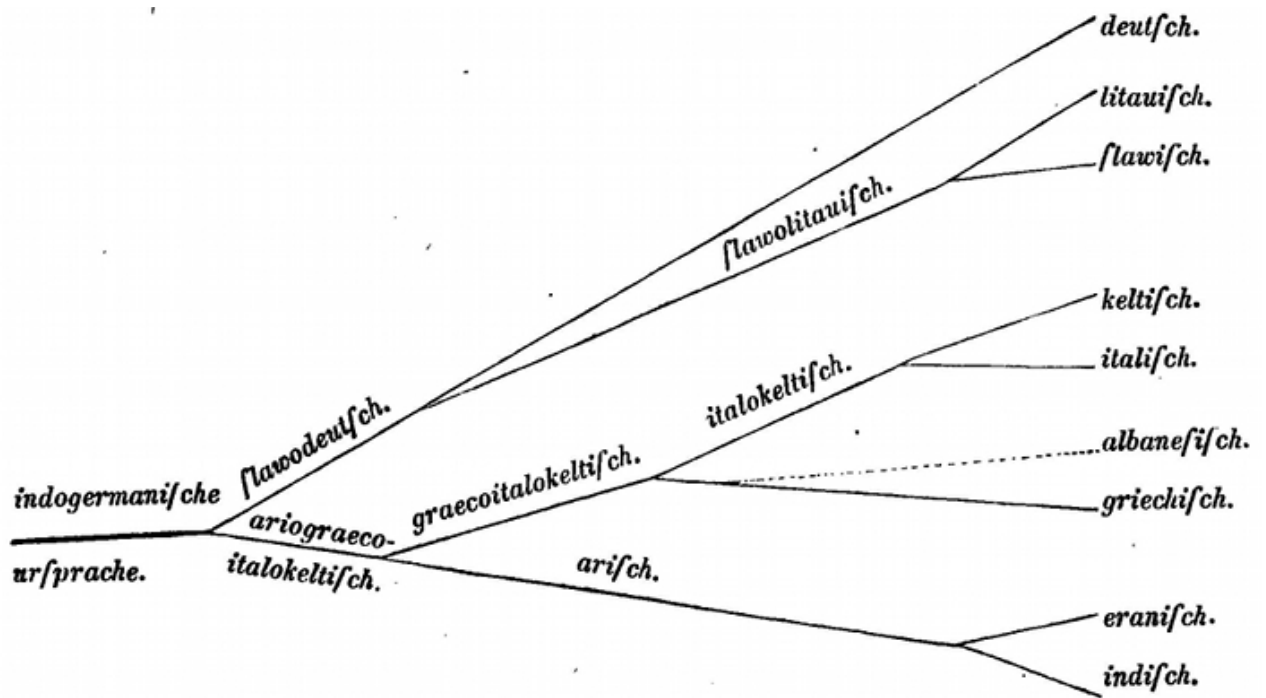


Figure 1: August Schleicher's Indo-Germanic *Stammbaum*, from *Compendium der vergleichenden Grammatik der indogermanischen Sprachen* (Weimar: Böhlau, 1861).

Schleicher's attempts to explain language development, even as late as his monumental *Die Deutsche Sprache* of 1860, were essentially an amalgam of pre-Darwinian biological metaphors derived from Romanticism, combined with quasi-Hegelian ruminations on the historical development of languages and nations throughout history.

In *Die Deutsche Sprache*, Schleicher continues this tradition by claiming, in a similar way to Bopp, that languages are "Naturorganismen" ("natural organisms"), not only because they can be classified according to "Gattungen" ("genera or species"), but also on account of their growth according to natural laws:

Die Sprachen, diese aus lautlichem Stoffe gebildeten höchsten aller Naturorganismen, zeigen ihre Eigenschaft als Naturorganismen nicht nur darin, daß sie, wie diese, sämtlich in Gattungen, Arten, Unterarten u. s. f. sich ordnen, sondern auch durch ihr nach bestimmten Gesetzen verlaufendes Wachstum.³⁵

Languages, these highest of all natural organisms that are formed out of the substance of sounds, demonstrate their character as natural organisms not only because they allow

³⁵ Schleicher, *Die Deutsche Sprache*, 33.

themselves to be collectively ordered according to genera, species, sub-species and so on, but also through their growth, which proceeds according to particular laws.

As Darwinian as all this might sound, the theory of language found in *Die Deutsche Sprache* is underpinned by a view of history that is about as far from Darwin as one could possibly imagine. *Die Deutsche Sprache* appeared in the same year (1860) as Heinrich Georg Bronn's (1800-1862) translation of *On the Origin of Species* (translated as *Über die Entstehung der Arten*), which explains why Schleicher would not have had time to incorporate Darwin's ideas. Prior to 1860, Schleicher thought that most European languages had developed in a prehistoric period. What the present-day comparative philologist observes is the "Verfall" ("degeneration") of languages after they have reached the "höchste Stufe" ("highest level") of perfection. Once a language is fully developed and perfected, it allows the people to whom it belongs to become an historical (in the sense of politically active and expansive) entity. It is historical events (migrations, wars, interactions with other cultures) that lead a language to decline from its earlier peak of development. In this sense, Schleicher sees "Sprachbildung" ("language development") and the forces of history as being in antagonism with one another in the development of cultures.³⁶

With the appearance of *Die Darwinische Theorie und die Sprachwissenschaft* (*The Darwinian Theory and the Science of Language*) in its first edition of 1863,³⁷ Schleicher dispenses with this cyclical and highly speculative story of perfection followed by degeneration. In other words: during this period Schleicher's theory of language undergoes a process of rhetorical *Naturalisierung*. By this time, Schleicher had been converted to a school of thought that William Whewell (1794-1866), paraphrasing the ideas of the geologist Charles Lyell (1797-1875) in his *Principles of Geology* (3 vols., 1830-33), dubbed "uniformitarianism": the notion that, today as in the past, uniform and continuous geological processes underlie changes in the earth's surface.³⁸ This meant that Schleicher's discontinuous

³⁶ Schleicher, *Die Deutsche Sprache*, 35. See also Benes, *In Babel's Shadow*, 230.

³⁷ August Schleicher, *Die Darwinische Theorie und die Sprachwissenschaft. Offenes Sendschreiben an Herrn Dr. Ernst Haeckel* (Weimar: Böhlau, 1863).

³⁸ William Whewell, review of Charles Lyell, *Principles of Geology, being an Attempt to Explain the Former Changes of the Earth's Surface*, *Quarterly Review* 47 (1832): 103-32, see p. 126 for the discussion of "uniformitarianism." Anna Morpurgo Davies points to the complexity of Schleicher's position on uniformitarianism, observing that while his earlier narrative of perfection followed by decay was clearly "anti-uniformitarian," Schleicher may well have changed his view on this matter at a later point. See Anna Morpurgo Davies, *History of Linguistics*, Volume IV: *Nineteenth-Century Linguistics* (London: Longmans, 1992), 178, 190.

narrative about perfection followed by degeneration would need to be replaced by a new story dealing with a continuous, progressive and layered development in languages in a manner suggestive of Darwinian evolution by natural selection, a narrative underpinned by Schleicher's ostentatious references to Lyell.³⁹

Addressing his text to his friend and mentor in things Darwinian, Ernst Haeckel, Schleicher now claims to have been a Darwinian before he read Darwin.⁴⁰ The text is replete with ostentatious displays of its purported biological rigour: languages are organisms; language roots are the "Zellen" ("cells") of language; language research utilises an exclusively natural scientific method based on the strict observation of established facts, and all subjective interpretation, endless etymologies, and vague speculations must be renounced at all costs.⁴¹ The title of philology, tarnished by its associations with romanticism, idealism, Biblical hermeneutics and speculative thought, is to be replaced by "die Glottik" ("glottics"), which is a "Naturwissenschaft."⁴²

Yet Schleicher's actual deployment of Darwin in this text displays little grasp of natural selection and is much more characterised by a vague adaptation of Bronn's "Kampf um's Daseyn" ("struggle for life") to language. We are simply told that the Indo-Germanic languages could survive because of their higher level of organisation and perfection.⁴³ Schleicher does quote a passage from Darwin in which the principle of variation is discussed,⁴⁴ arguing that this principle is directly applicable to variation in language, but the mechanism of selection with respect to language is never addressed.⁴⁵ This did not stop Schleicher from arguing in a later paper published in 1865 (six years before the *Descent of Man*), that the science of language or "die Glottik" provides evidence of "eine allmähliche Entwicklung des Menschen aus

For further discussion see also T. Craig Christy, *Uniformitarianism in Linguistics* (Amsterdam, John Benjamins, 1983).

³⁹ Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 10.

⁴⁰ Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 4-5.

⁴¹ Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 4, 24, 6.

⁴² Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 7 (footnote 1).

⁴³ Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 26.

⁴⁴ Charles Darwin, *Über die Entstehung der Arten*, trans. Heinrich Georg Bronn (Stuttgart: Schweizerbart, 1860), 350.

⁴⁵ Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 26-28.

niederen Formen” (“a gradual development of the human being out of lower forms”).⁴⁶ The arguments used by Schleicher for this purpose can already be found in *Die Darwinsche Theorie*: articulate, conceptual or “meaningful sounds” (“Bedeutungslauten”) were, according to Schleicher, preceded by and developed out of “interjections” (“Lautgebärde”) and “imitations of noises” (“Schallnachahmungen”), with the latter two categories being readily observable among higher primates.⁴⁷ These arguments would later be useful to Darwin, because they helped to open up an evolutionary continuum between humans and animals. In this, they are also similar to ideas proposed by both William Farrar (*Essay on the Origin of Language*, 1860) and Hensleigh Wedgwood (*On the Origin of Language*, 1866), both of whom are cited by Darwin in the *Descent of Man*, along with Schleicher himself.⁴⁸

The relation between Schleicher and Darwin is therefore circular: beginning in 1863, and once again in 1865, Schleicher draws upon Bronn’s 1860 translation of *On the Origin of Species* (1859) in order to reinforce the scientific status of philology, now rebadged as “die Glottik”; later on, in 1871, Darwin in turn cites Schleicher in *The Descent of Man* to bolster his theories concerning a developmental continuum between primates and humans. Yet despite these filiations with Darwin, Schleicher’s *Naturalisierung* of *Sprachwissenschaft* via Darwinian means was, to use Heidelberger’s terms, neither ontological nor methodological. It was not ontological because Schleicher did not fully understand the mechanism of natural selection, invoking merely the category of higher organisation to explain why some languages survive and others die out. It was also not methodological because, lacking a true grasp of Darwinian ontology, Schleicher was incapable of developing hypotheses that could prove the operation of natural selection in language. For Schleicher, Darwinian natural selection served much more as an analogical or rhetorical device that was used to reinforce the prestige of his new science: *die Glottik*.

In her essay on “Darwin and the Growth of Language Theory,” Gillian Beer investigates precisely this reciprocal influence between theories of organic evolution and theories of language during the 1860s and 1870s.⁴⁹ Beer’s analysis shows the extent to which

⁴⁶ August Schleicher, *Über die Bedeutung der Sprache für die Naturgeschichte des Menschen*, (Weimar: Böhlau, 1865), 19-21

⁴⁷ Schleicher, *Die Darwinsche Theorie und die Sprachwissenschaft*, 23-24.

⁴⁸ See Charles Darwin, *The Descent of Man, and Selection in Relation to Sex*, 2 vols, (London: John Murray, 1871), 1: 56-7.

⁴⁹ Gillian Beer, “Darwin and the Growth of Language Theory,” in *Open Fields: Science in Cultural Encounter* (Oxford: Oxford University Press, 1996), 95-112.

these increasingly virulent analogies were both scientifically useful and debilitating. The idea that languages are organisms was, she argues, initially useful for the development of an inductive method in nineteenth-century philology, as Hans Aarsleff has also shown.⁵⁰ But it became misleading as soon as the language-as-organism analogy was taken to be a statement of ontological truth rather than a merely heuristic metaphor. As soon as this mistaken ontology took hold, according to Beer, it was

high time for the two fields [i.e., evolutionary biology and philology, AN] to declare their independence of each other, to assert the autonomy of their studies and to obliterate for a while their lines of filiation. Their imagistic interconnections were beginning to flaw argumentative procedures, producing only a self-verifying exchange. The ricochet of terms to and fro between language theory and evolutionary theory was making the apparent proof of congruity too easy. Evolutionary theory henceforth turned towards genetics, and linguistics to synchronic laws.⁵¹

As will shortly be demonstrated, the debate on language between Friedrich Max Müller and William Dwight Whitney – a debate which also involved Darwin – was an important stage in the increasing separation of philology (and later linguistics, in the manner of Saussure) from evolutionary biology.

Friedrich Max Müller: Fighting Darwin with Kantian Weapons

Friedrich Max Müller, son of the philhellenic poet Wilhelm Müller (1794-1827), studied Sanskrit under Hermann Brockhaus (1806-1877) in Leipzig and comparative philology under Franz Bopp in Berlin, before transferring to London in 1846 to edit the manuscripts of the *Rig Veda* then held by the East India Company. What was initially planned as a research visit to Britain became a life-long stay when Müller was appointed as Taylorian Professor of Modern Languages at Oxford in 1854.⁵² Müller made his name as a comparative philologist and as the editor of the fifty-volume collection of Asian religious texts, *The Sacred Books of the East*

⁵⁰ Hans Aarsleff, *The Study of Language in England, 1780-1860* (Princeton, NJ: Princeton University Press, 1967), 127; cited in Beer, “Darwin and the Growth of Language Theory,” 100.

⁵¹ Beer, “Darwin and the Growth of Language Theory,” 110.

⁵² For context see, Davis and Nicholls, “Friedrich Max Müller”; see also: Lourens van den Bosch, *Friedrich Max Müller: A Life Devoted to the Humanities* (Leiden: Brill, 2002).

(1879-1910).⁵³ His breakthrough work, a book-length essay on *Comparative Mythology*, appeared in 1856 and remained highly influential in British philology and in early British anthropology up until the 1870s.⁵⁴ In that work, Müller had shown his philological dexterity by demonstrating similarities between ancient Greek and Sanskrit languages and myths.

As the century progressed, the word ‘Science’ (in capitals) appeared ever more frequently in the titles of Müller’s books. The *Lectures on the Science of Language* first appeared in 1861, followed by an *Introduction to the Science of Religion* in 1873, and *Contributions to the Science of Mythology* in 1897. What Müller meant by ‘Science’ changed as the century progressed, and especially after the rise to prominence of Darwin. In general, his understanding of science moved from a systematic method involving comparison and the development of general laws based on induction (essentially philological *Wissenschaft*), to an increasing willingness to appropriate, sometimes quite ostentatiously, the rhetoric of ‘physical’ or natural science, especially the ideas of Darwin and Lyell. In this, the transition in Müller’s use of the term science mirrored a shift in general usage around the middle of the nineteenth century, which saw an incremental differentiation in German between *Natur-* and *Geisteswissenschaft* (natural and human science),⁵⁵ and the increasingly exclusive association of the term ‘science’ in English with natural or ‘physical’ science.⁵⁶

Yet Müller’s appropriations of Darwin were, from the beginning, ambivalent. In this connection, the story begins in 1860, the year in which the first series of the *Lectures on the Science of Language* was delivered, later to be published in 1861. Already in those lectures, Müller invokes the name of Darwin to explain why certain phonetic types or “language roots” prevail and others die out. “With the process of elimination, or natural selection,” according to Müller, “the historical element enters into the science of language,” and he likens this process of elimination to “that constant struggle which has been so well described in natural history as the struggle for life.”⁵⁷ Müller was prepared to deploy the idea of natural selection in order to

⁵³ See Arie Molendijk, *Friedrich Max Müller and the Sacred Books of the East* (Oxford: Oxford University Press, 2016).

⁵⁴ See George Stocking, *Victorian Anthropology* (New York: The Free Press, 1987), 59-66.

⁵⁵ See, for example, the public lecture delivered by Hermann von Helmholtz in 1862, “Über das Verhältniss der Naturwissenschaften zur Gesammtheit der Wissenschaft,” in *Vorträge und Reden*, 4th ed., vol. 1 (Braunschweig: Vieweg, 1896), 157-185.

⁵⁶ Richard Yeo, *Defining Science: William Whewell, Natural Knowledge and Public Debate in Early Victorian Britain* (Cambridge: Cambridge University Press, 1993), 10, 30.

⁵⁷ Friedrich Max Müller, *Lectures on the Science of Language*, First Series (London: Longman, Green, Longman and Roberts, 1861), 371-372.

explain why languages change over time, his basic idea being that the simplest and most useful expressions would inevitably triumph over those that were more long-winded and circuitous. Seen in this way, languages develop incrementally according to natural laws analogous to those found in Lyell's *Principles of Geology*, with antiquated layers – like the myths of the classical world – containing linguistic ‘fossils’ that are buried under present-day usage. These geological principles, according to Müller in his second series of *Lectures on the Science of Language* (1864), “are equally applicable to the study of Philology.”⁵⁸ One year earlier, Lyell had himself received Müller's theories on the development of languages with enthusiasm in his work *The Geological Evidences of the Antiquity of Man* (1863), so that an atmosphere of reciprocal confirmation came to characterise the relation between these two important figures in mid nineteenth-century British science.⁵⁹

On account of Lyell's well-known influence on Darwin's *Origin of Species*,⁶⁰ Müller would have seen him as an important scientific ally. But despite Müller's invocation of the giants of British ‘physical science,’ his highly selective and tendentious reading of Darwin's theory of natural selection can already be found in his second series of *Lectures on the Science of Language*, published in 1864. Here we are told that in language development, as in nature itself, “natural selection [...] is inevitably rational selection [...] it is the individual which comes nearest to the original intention of its creator [...] that conquers in the great struggle for life.”⁶¹ Like Schleicher, Müller associates adaptive fitness or strength with perfection. He thereby fails to recognize that random variation, combined with the selective pressures exerted by natural environments, is the actual engine of natural selection, and that no guiding rationality is involved. In other words, Müller seems to have wanted Darwinian natural selection with a guiding creator at work in the background. This is a reading of Darwin that – even considering the concessions to religious sensitivities found in the *Origin of Species* – bears little relation to Darwin's argument. In Heidelberger's terms, it is far more a partial *Naturalisierung* than it is

⁵⁸ Friedrich Max Müller, *Lectures on the Science of Language*, Second Series (London: Longman, Green, Longman and Roberts, 1864), 14.

⁵⁹ Charles Lyell, *The Geological Evidences of the Antiquity of Man with Remarks on Theories of the Origin of Species by Variation* (London: John Murray, 1863), 454. Also discussed in Christy, *Uniformitarianism in Linguistics*, 47-51.

⁶⁰ On this question, see Beer, *Darwin's Plots*, 38-40.

⁶¹ Friedrich Max Müller, *Lectures on the Science of Language*, Second Series, (London: Longman, Green, Longman and Roberts, 1864), 305-307.

an *Empirisierung*, since a transcendent creator remains present in the background, and here Darwin's ideas are also deployed on account of their rhetorical force.

This 'transcendent' element in Müller's theory of language – an element which, as we shall see, is also 'transcendental' in the Kantian sense – comes to the fore when Müller addresses the subject of language in relation to the controversial issue of human descent. Through his networks in Germany, Müller was well aware of Schleicher's interventions in this field, and he reviewed the English translation of Schleicher's essay on *Die Darwinische Theorie* in an issue of *Nature* published in 1870.⁶² As early as 1860, in the first series of the *Lectures on the Science of Language*, Müller insists that the human use of articulate language is decisive in refuting all attempts to propose that humans evolved from non-human species: "the one great barrier between the brute [i.e., animal, AN] and man is *Language*. Man speaks, and no brute has ever uttered a word. Language is our Rubicon, and no brute will dare to cross it."⁶³ Müller then takes up this argument with renewed force in his three "Lectures on Mr. Darwin's Philosophy of Language," delivered at the Royal Institution in London from May to July 1873, as part of his response to the *Descent of Man* (1871). Here Müller's chief witness in his attempted prosecution of Darwin is Kant. Even though Müller occasionally used the expression "Back to Kant!" in his private correspondence,⁶⁴ there is little evidence of him having been a neo-Kantian in the German sense, even if he might have taken consolation from the apparent rise in Kant's fortunes during the second half of the nineteenth century. Müller even translated Kant's first critique into English in 1881, and he describes this volume as his "constant companion through life" in the foreword to his translation.⁶⁵

With respect to the theme of *Naturalisierung*, Müller's lectures on Darwin are a curious mixture. On the one hand, language "roots" or "cells" are seen to underpin a "Biology" of language; yet on the other hand, these "roots" which Müller regards as "ultimate facts in the Science of Language" have their ultimate origin in the *a priori* concepts of human cognition identified by Kant.⁶⁶ "Let us see," writes Müller,

⁶² Friedrich Max Müller, 'The Science of Language' [review of Schleicher, *Darwinism Tested by the Science of Language*, trans. Bickers] *Nature: A Weekly Illustrated Journal of Science* [London], 6 January 1870, 256-259.

⁶³ Müller, *Lectures on the Science of Language*, First Series, 340.

⁶⁴ Friedrich Max Müller to Dr. Althaus, 4 March 1886, in *The Life and Letters of the Right Honourable Friedrich Max Müller*, ed. Georgina Müller, 2 vols. (London: Longmans, Green and Co., 1902), 2: 196.

⁶⁵ Immanuel Kant, *Immanuel Kant's Critique of Pure Reason: In Commemoration of the Centenary of its First Publication*, trans. F. Max Müller (London: Macmillan, 1881), xiii.

⁶⁶ Müller, "Lectures on Mr. Darwin's Philosophy of Language, Third Lecture," 2-3, 6.

what roots are not. Roots are not either interjections or imitations [...] what I formerly called *Roots*, or *Phonetic Types*, are indeed the ultimate facts in the analysis of language, but that, from a higher and philosophical point of view, they admit of a perfectly intelligible explanation. They represent the *nuclei* formed in the chaos of interjectional or imitative sounds; the fixed centres which become settled in the *vortex* of natural selection. The scholar begins and ends with these phonetic types; or, if he ignores them and traces words back to the cries of animals, or the interjections of men, he does so at his peril. The philosopher goes beyond, and he discovers the line which separates rational from emotional language, – conceptual from intuitional knowledge, – he discovers in the roots of all languages, the true barrier between Man and Beast.⁶⁷

Müller correctly presents Darwin's ideas on the origin of language as being informed by the empiricism of Hume. Darwin applies Hume's dictum "no ideas without impressions" to language, in that Darwin, like Farrar and Wedgwood, sees language as being based on either instinctive cries or on the imitation of impressions derived from external nature. Since both humans and some animals react to and imitate external impressions, the rudiments of linguistic capability cannot, for Darwin, be confined to the human sphere alone. It is on this basis that Darwin, writing in the *Descent of Man*, explicitly rejects Müller's theory of language, favouring the positions of Wedgwood, Farrar and Schleicher.⁶⁸

In Müller's view, Darwin fails to understand the real nature of articulate and conceptual language, because he does not consider Kant's critique of Hume.⁶⁹ Citing Bopp, Müller argues that articulate language is formed by language "roots."⁷⁰ Each language root, according to Müller, expresses a general concept, and "every root is an abstract term [...] these roots, in their historical reality, mark a period in the history of the human mind – they mark the beginning of rational speech."⁷¹ The capacity for rational speech, and for the formation of

⁶⁷ Müller, "Lectures on Mr. Darwin's Philosophy of Language, Third Lecture," 17, 21.

⁶⁸ Darwin, *Descent of Man*, 1:56-57.

⁶⁹ Friedrich Max Müller, "Lectures on Mr. Darwin's Philosophy of Language, First Lecture," *Fraser's Magazine*, [London], May 1873, pp. 525-41; here: 529.

⁷⁰ Friedrich Max Müller, "Lectures on Mr. Darwin's Philosophy of Language, Second Lecture," *Fraser's Magazine*, [London], June 1873, 659-78; here: 671, 677.

⁷¹ Müller, "Lectures on Mr. Darwin's Philosophy of Language, Second Lecture," 677.

general concepts in language roots, is thereby said to refute the notion that the human mind is a *tabula rasa* written upon by external impressions. The conceptual side of language, according to Müller, amounts to proof of the *a priori* rational faculties of humankind recognised by Kant. These *a priori* faculties are presented by Müller as the transcendental condition of possibility for articulate language. In this way, Müller believes himself to have created a radical and corrective break in the continuum between animal and human language opened by Farrar, Wedgwood, Schleicher and lastly Darwin. At the same time, however, Müller's recourse to Kantian concepts as the ultimate origin of language roots would seem to reveal the purely metaphorical and rhetorical status of his so-called "Biology of language." It is, in other words, difficult to see how a transcendental language root – that is, transcendental in the Kantian sense, as an *a priori* condition for possibility of rational speech *per se* – could at the same time have a prehistoric and empirical basis. In Müller's case, as in that of Schleicher, we are therefore dealing with a rhetorical or analogical *Naturalisierung* which is only partial, since Müller wants to retain a transcendental principle – namely, the role played by *a priori* concepts – in the formation of what he calls human, rational and articulate language.

Critics of Schleicher and Müller: Steinthal and Whitney

The language-as-organism metaphor deployed by Schleicher and Müller found its two chief critics in Heymann Steinthal, co-founder of the *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* (*Journal for Folk-Psychology and Language Science*) and the American Indo-Germanist William Dwight Whitney, himself a student of German comparative philology who had studied with Bopp and with the Indologist Albrecht Weber (1825-1901) in Berlin, and with another German Indologist – Rudolph von Roth (1821-1895) – in Tübingen.⁷² In a passage from Steinthal's review of Schleicher's *Zur Morphologie der Sprache* (*On the Morphology of Language*, 1859), Steinthal already announces his preference for a mechanistic view of language, which he explicitly opposes to Schleicher's organic or morphological position:

Wenn die neuere Sprachwissenschaft darauf ausging, die Sprache als einen Organismus zu behandeln, so war sie hierdurch auch angewiesen, sich nach Analogie der Naturwissenschaft zu gestalten. Unseren Sprachforschern ist es daher längst geläufig, von einem mechanischen Wechsel und einem Gewicht des Lautstoffes, vom

⁷² See Stephen G. Alter, *William Dwight Whitney and the Science of Language* (Baltimore, MD: Johns Hopkins University Press, 2005), 21-24.

anatomischen Bau der Sprache, von der physiologischen Functionen der Sprachtheile zu reden [...] Daß nun einerseits Herr Schleicher sich mit der natürlichen Morphologie genauer bekannt gemacht habe, müssen wir voraussetzen; aber hat er denn auch wohl andererseits vorausgesetzt, der Leser werde mit dem heutigen Zustande jener Disciplin mehr oder weniger vertraut sein? Es scheint kaum; denn sonst hätte er ja voraussetzen müssen, der Leser werde wenigstens ungefähr wissen, daß und warum die Morphologie in der Naturwissenschaft bis heute noch wenig mehr als ein Desideratum ist.⁷³

If the most recent philology proceeded on the basis that language is to be treated as an organism, it was thereby required to model itself by way of analogy with the natural sciences. For this reason, it has long been prevalent among our language researchers to speak of a mechanical exchange and of the weight of sound-substance, of the anatomical structure of language and of the physiological function of elements of language [...] On the one hand, we must assume that Mr. Schleicher has made himself familiar with natural morphology; but on the other hand, has he indeed assumed that the reader would be more or less familiar with the present-day state of that discipline? It seems hardly, because otherwise he would also have had to presuppose that the reader would at least have a vague idea as to why morphology is still today little more than a desideratum in the natural sciences.

Steinthal's discussion of the problems associated with the organism metaphor deployed by Schleicher can best be understood in relation to Steinthal's earlier study of 1855: *Grammatik, Logik und Psychologie, ihre Principien und ihr Verhältniss zu einander* (*Grammar, Logic and Psychology, Their Principles and Their Relation to One Another*). There Steinthal makes his case against the organic or morphological understanding of language perfectly clear:

Das Wort organisch könnte für uns nur einen übertragenden Sinn haben, denn die Sprache gehört wesentlich dem Geiste, es ist ein geistiges Erzeugnis [...] Dieses Wort [d.h., organisch, AN] hat seine Epoche ausgelebt.⁷⁴

⁷³Heymann Steinthal, 'Mathematische Sprachwissenschaft', *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* 1 (1860): 432-35; here: 432-3.

⁷⁴ Heymann Steinthal, *Grammatik, Logik und Psychologie, ihre Principien und ihr Verhältniss zu einander* (Berlin: Dümmler, 1855), 379.

The word organic could have for us only a figurative meaning, since language essentially belongs to the mind, it is a mental product [...] This word [i.e., organic, AN] has outlived its epoch.

For Steinthal, language could never be regarded as an empirical organism because it amounts to mental (“geistig”) operation. He took the opportunity to elaborate this view of language, in explicit opposition to Schleicher, in an extended review of Schleicher’s book *Die Deutsche Sprache* (1860).⁷⁵ Again, the target of Steinthal’s polemic here is Schleicher’s claim that language is an organism. For Steinthal, this claim is based on the false assumption that “Sprache ist lautes Denken [...] der lautliche Ausdruck des Gedankens” (“language is phonetic thought [...] the phonetic expression of thought”). According to this model, which Steinthal attributes to Schleicher, the sound or *Laut* is the material or ‘organic’ counterpart to a pre-existing and rational form of thought. Crucially, for Steinthal, this means that it is impossible for feelings directly to be expressed in language, since they must be transformed into thoughts before they can come to expression.⁷⁶

Working against this dualistic model of thoughts coming to expression in sounds, Steinthal presents his own model of linguistic functioning, which displaces Schleicher’s organic model with a mechanistic continuum of sensations. To use Steinthal’s example in this essay: a pain in one’s finger is a physiological sensation which comes into perception once it crosses a certain threshold; the “Seele” (“soul”, by which Steinthal means “mind”) is thereby provoked to give expression to feelings of pain, and it does so by making associations with previous painful experiences, such as being “gestochen” (pricked or stabbed) by a needle. From this mental association, we derive the expression “man habe einen stechenden Schmerz” (in English: normally a ‘stabbing’ pain).⁷⁷ Language thus brings about the representation of sensations which, according to the quantitative psychology of Johann Friedrich Herbart (1776-1841) favoured by Steinthal, amount to mechanistic forces that press for representation in the human mind once they pass over a threshold of intensity. In this way, mechanism replaces organism as the primary metaphor used for the understanding of language, and language

⁷⁵ Heymann Steinthal, “Ueber Charakteristik der Sprachen,” *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* 2 (1862/3): 224-243.

⁷⁶ Steinthal, “Ueber Charakteristik der Sprachen,” 225-227.

⁷⁷ Steinthal, “Ueber Charakteristik der Sprachen,” 229.

becomes the mental counterpart to both thoughts and physical sensations, which exist along the same continuum. For Steinthal, the mechanistic model is superior because mechanistic sensations may be susceptible of mathematical measurement according to their intensity. By contrast, the expression ‘organic’ belongs to an earlier epoch, presumably because it carries with it the tarnished legacies of romanticism and German idealism.

Steinthal’s move towards the psychology of language also finds its analogue in the way in which the *Junggrammatiker* (neogrammarians or young grammarians) began to characterise the study of language as a ‘cultural science’ (*Culturwissenschaft*) rather than a natural science or ‘die Glottik’ – to use Schleicher’s term of differentiation from philology. Notwithstanding Hermann Paul’s (1846-1921) prominent critique of Moritz Lazarus (1824-1903) and Steinthal, the methodological remarks to be found in the opening sections of his *Prinzipien der Sprachgeschichte* (*Principles of Language History*, 1880) – a standard work of the *Junggrammatiker* – also describe the study of language as a *Culturwissenschaft* precisely because of its psychological basis: “die psychologie ist [...] die vornehmste basis aller in einem höheren Sinne gefassten culturwissenschaft” (“psychology is most prominent basis of all cultural science, conceived in the higher sense of that term”).⁷⁸ In opposition to the *Völkerpsychologie* of Lazarus and Steinthal, which Paul claims to be built purely on the basis of an individual psychology derived from Herbart,⁷⁹ Paul emphasises the physiological and societal relations between humans as being equally important as psychological factors in elaborating a cultural science of language. But the crucial point here lies in the fact that by rejecting the organic model of Schleicher and replacing it with the mechanistic model of psychology, both Steinthal and Paul retreat from the claim that the study of language can be described as a natural science dealing with organisms.

Because William Dwight Whitney published his works in English, he was forced not only to refute the ‘organic’ language claims of Schleicher but also those of his chief opponent in the English-speaking world: Müller.⁸⁰ Although there were significant differences between Whitney’s position on language change and those theorised by the *Junggrammatiker*,⁸¹ it is important to mention that August Leskien (1840-1916) translated Whitney’s *Life and Growth*

⁷⁸ Hermann Paul, *Prinzipien der Sprachgeschichte*, 2nd ed. (1880; Halle: Niemeyer, 1886), 6. Hermann Paul used lower case for German substantives.

⁷⁹ Paul, *Prinzipien der Sprachgeschichte*, 11-13.

⁸⁰ For an overview of Whitney’s campaign against Müller see Alter, *William Dwight Whitney*, 174-206.

⁸¹ See Alter, *William Dwight Whitney*, 207-33.

of *Language* (1875) into German only a year after its first publication.⁸² Whitney shared two positions with the *Junggrammatiker*: first, a general rejection of the *literal*, as opposed to metaphorical, idea that language is an organism; and second: a commitment to gradual language change in the context of uniformitarianism. Saussure – who had himself worked with Leskien in Leipzig during 1876 and 1877 and who took detailed notes on Whitney⁸³ – argued that Whitney in many ways prepared the way for the later positions of the *Junggrammatiker*.⁸⁴

Already in the 1867, in his *Language and the Study of Language*, Whitney was taking both Schleicher and Müller to task for suggesting that the language-as-organism hypothesis could be anything other than a metaphor:

We see, I think, from our examination of the manner in which language is learned and taught, what is meant when we speak and write of it as having an independent or objective existence, as being an organism or possessing an organic structure, as having laws of growth, as feeling tendencies, as developing, as adapting itself to our needs, and so on. All these are figurative expressions, the language of trope and metaphor not of plain fact [...] Language has, in fact, no existence save in the mouths and minds of those who use it; it is made up of separate articulated signs of thought, each of which is attached by a mental association to the idea that it represents, is uttered by voluntary effort, and has its value and currency only by the agreement of speakers and hearers [...] Language is, in fact, an institution [...] the work of those whose wants it subserves [...] These considerations determine the character of the study of language as a historical or moral science. It is a branch of the history of the human race and of human institutions.⁸⁵

⁸² William Dwight Whitney, *The Life and Growth of Language* (London: Henry S. King, 1875); *Leben und Wachstum der Sprache*, trans. August Leskien (Leipzig: Brockhaus, 1876).

⁸³ See Roman Jakobson, “The World Response to Whitney’s Principles of Linguistic Science,” in *Whitney on Language: Selected Writings of William Dwight Whitney*, ed. Michael Silverstein (Cambridge, MA: MIT Press, 1971), xxv–xlv; here: xxxii–xxxv.

⁸⁴ Ferdinand de Saussure, *Course in General Linguistics*, ed. and trans. Roy Harris (1916; London: Bloomsbury, 2013), 5–6.

⁸⁵ William Dwight Whitney, *Language and the Study of Language: Twelve Lectures on the Principles of Linguistic Science* (London: Trübner 1867), 35, 48.

This passage demonstrates how Whitney's total rejection of the language-as-organism hypothesis made him an important figure for Saussure.⁸⁶ Whitney proposes that language is based on a partially unconscious social consensus about the meanings of words. Its institutional character underlines its historical contingency and mutability according to changes in the community of speakers, and its signs are attached to the ideas which they represent purely by mental associations, which may in turn change depending upon cultural context.

Whitney's philosophy of language was developed via his reception of Scottish 'common sense' theorists of language, especially Hugh Blair's (1718-1800) *Lectures on Rhetoric and Belles Lettres* (1783), in which the author states that "the connexion between words and ideas may, in general, be considered as arbitrary and conventional" – a significant prefiguration of the more famous position of Saussure.⁸⁷ Seen in this way, the arbitrary links between linguistic signs and their referents is made conventional by nothing more than processes of consensus within language communities that exceed the agency of any individual speaker. Such a philosophy of language did not require invocations of what Whitney referred to with some irony as "deeper and more mysterious parts of the mind"⁸⁸; rather, it merely suggested that communities use certain words to refer to certain things, and that language change is attributable to gradual changes in such social conventions.

In this respect, Whitney's view of gradual language change was informed by the general heuristic framework of uniformitarianism based on an analogy with Lyell's geology, and on an empiricist and imitative theory of the origin of language derived from Hensleigh Wedgwood. As part of his campaign against Müller, this allowed Whitney to form a strategic alliance with Charles Darwin, while also seeing him referenced by Darwin in the second (1874) edition of the *Descent of Man* as an authority explicitly opposed to Müller.⁸⁹ Yet despite Whitney's alliance with Darwin, what is important here is that the rejection of the organic model is aligned with the view that the study of language is decisively not natural-scientific but rather historical. Like Steinthal, Whitney can thus be described as a productive destroyer of the rhetoric of

⁸⁶ See E.F.K. Koerner, *Ferdinand de Saussure: Origin and Development of His Linguistic Thought in Western Studies of Language* (Braunschweig: Vieweg, 1973), 81-83; Benes, *In Babel's Shadow*, 272, 280.

⁸⁷ Hugh Blair, *Lectures on Rhetoric and Belles Lettres*, 3rd ed, 3 vols. (1783; London: A Strahan and T. Cadell, 1787), 1:123

⁸⁸ Letter from Whitney to George Curtius, 30 May 1873, quoted in Alter, *William Dwight Whitney*, 75.

⁸⁹ See Alter, *William Dwight Whitney*, 4-5, 84-88, 130-33. On Whitney's alliance with Darwin, see Alter, *William Dwight Whitney*, 181-92. See Darwin, *The Descent of Man and Selection in Relation to Sex*, 2nd ed., 2 vols. (London: John Murray, 1874), 1: 88.

Naturalisierung, and he would later go on to devote a whole volume to critiquing Müller's 'organic' claims about language.⁹⁰

As Roman Jakobson has shown in depth, Whitney's powerful critique of the language-as-organism metaphor exerted a decisive influence upon Saussure.⁹¹ In the *Cours de linguistique générale*, Max Müller and Schleicher are mentioned alongside Bopp as representatives of comparative philology. While Müller's lectures are characterised by Saussure as having been "brilliant" yet "somewhat superficial," Schleicher's work is seen to represent a "systematisation of the science founded by Bopp." Yet this science – comparative philology – is said to have failed to found a "true science of linguistics" because it remained preoccupied with comparing similarities between only two languages (ancient Greek and Sanskrit), and because it insisted upon the organic model of language growth. Only with the *Junggrammatiker*, according to Saussure, was the idea of "language as an organism developing of its own accord" dispensed with, so that language could now be seen as "a product of the collective mind of a linguistic community."⁹² For Saussure, however, the real pioneer was Whitney. "In order to emphasise that a language is nothing other than a social institution," writes Saussure, "Whitney quite rightly insisted upon the arbitrary character of linguistic signs. In so doing, he pointed linguistics in the right direction."⁹³

Conclusion

One of the guiding questions here has been the extent to which philology, as the forerunner to academic literary studies, imitated natural science to bolster its scientific credentials. The cases of Schleicher and Müller demonstrate that these imitations were highly strategic, forming part of what I would call the rhetoric of *Naturalisierung*.

In Schleicher's case, a grander historical argument about the perfection and decay of languages and nations appears to have been abandoned so that Lyell and Darwin could be taken on board. The only remnant of German idealism that persists is Schleicher's monism, which is

⁹⁰ William Dwight Whitney, *Max Müller and the Science of Language: A Criticism* (New York: D. Appleton and Co., 1892).

⁹¹ Jakobson, "The World Response to Whitney's Principles of Linguistic Science," xxv-xlv.

⁹² Saussure, *Course in General Linguistics*, 3-4, 6.

⁹³ Saussure, *Course in General Linguistics*, 88.

part of the generally curious reception of Darwin in Germany described by Philip Ajouri.⁹⁴ Schleicher's application of Darwin's ideas to language shows little understanding of the mechanism of natural selection, even if Darwin was prepared to cite Schleicher as a witness against Müller in the *Descent of Man*.

Müller's accommodations of Darwin were even more strategic, because for Müller in Britain, Darwin was a local problem that had to be confronted head on. In the 1860s, Müller opportunistically deployed the language of natural selection to explain language development, initially misreading Darwin – either deliberately or out of ignorance – as having proposed a teleological version of natural selection. But when the full implications of natural selection for questions of human descent became clear, Müller mounted a rear-guard action against Darwin that relied on Müller's attempt to revive the fortunes of Kant in Britain. This 'back to Kant' campaign was wholly unsuccessful because it was contradictory: it was logically impossible for language "roots" to be empirical on the one hand (for example, as the so-called "cells" of language), yet also the embodiment of transcendental *a priori* concepts on the other.

The critiques of the language-as-organism hypothesis offered by Steinthal and Whitney are of significance not only for the history of linguistics but also for the history of the humanities – including the history of literary studies – in general. My short reconstruction of Scherer's and Moulton's attempts to conceive of literary studies along the lines of a natural scientific model demonstrates the prestige exerted by the natural sciences during the second half of the nineteenth century. Any suggestion of speculative arguments or normative value judgements in the then nascent discipline of academic literary studies was strenuously to be avoided by appealing to the purportedly 'empirical' facts that would underlie this new field. That these 'facts' would – at least for Scherer and for the young Dilthey of "Über die Einbildungskraft der Dichter" (1878), an essay published in the *Zeitschrift für Völkerpsychologie* – end up being based in the psychology and biography of the author demonstrates the proximity of German literary studies to the linguistic work of Lazarus and Steinthal during this period.

In this respect, Steinthal's and Hermann Paul's movement away from the organic model of language science and towards the mechanistic model of psychology may have represented a breakthrough for literary studies, but one which ended in the cul-de-sac of biographical criticism and obsessive *Editions-Wissenschaft*, a powerful academic model from which Goethe-Studies, to cite just one prominent German example, is still emerging. This important

⁹⁴ See Ajouri, "Darwinism in German Speaking Literature (1859-c.1890)."

tendency in German criticism can already be found in Scherer's famous essay on "Goethe Philologie" (1877), in which he praises the *Völkerpsychologie* of Lazarus and Steinthal as a non-speculative – and, importantly, non-Hegelian – variant of the philosophy of history, and in which he positively reviews a series of biographically oriented editions of Goethe's works, such as Salamon Hirzel's collection of Goethe's early poems and letters,⁹⁵ and Gustav von Loeper's heavily annotated edition of *Dichtung und Wahrheit*.⁹⁶ The philological purpose of such editions is, according to Scherer, to research "den Entstehungsprozeß des Werkes" ("the work's process of formation") within what he calls the "Seele des Autors" ("soul of the author").⁹⁷ Such an approach to literary criticism would seem to be completely naïve and antiquated to us today.

Yet when one takes the longer view, considering Whitney's influence upon Saussure, and via Saussure upon literary theory of the twentieth century, his importance seems to be immense. Here it is useful to draw an analogy between the respective emergences of philosophical hermeneutics and structuralism as methods in literary studies. It was Dilthey who paved the way for modern philosophical hermeneutics by eventually abandoning the positivist model of author psychology outlined in "Über die Einbildungskraft der Dichter" (1878), published in Lazarus and Steinthal's *Zeitschrift für Völkerpsychologie* under the influence of their scientific psychology. He did so by arguing, some five years later, for the "selbstständige Constituierung der Geisteswissenschaften" ("independent creation of the human sciences") in his *Einleitung in die Geisteswissenschaften* (1883).⁹⁸ This breakthrough book announced a vision of the humanities which sees all products of the human mind as being informed not only by individual psychology, but also by the historical and social contexts of both the author and the always belated and historically distanced reader.

In a similar way, the real breakthrough in literary structuralism appears to have emerged from a total rejection of natural scientific models in favour of the radical contingency of

⁹⁵ Salamon Hirzel, ed., *Der junge Goethe. Seine Briefe und Dichtungen von 1764-1776* (Leipzig: S. Hirzel, 1875).

⁹⁶ Johann Wolfgang von Goethe, *Goethes Dichtung und Wahrheit. Nach den vorzüglichsten Quellen revidirte Ausgabe*, ed. Gustav von Loeper (Berlin: Dümmler, 1876).

⁹⁷ Wilhelm Scherer, "Goethe Philologie" (1877), in *Aufsätze über Goethe* (Berlin: Weidmann, 1886), 1-28; here: 11-16.

⁹⁸ On this question see Nicholls, 'Scientific Literary Criticism in the Work of Wilhelm Dilthey and Matthew Arnold'. The quote is taken from Wilhelm Dilthey, *Einleitung in die Geisteswissenschaften. Versuch einer Grundlegung für das Studium der Gesellschaft und der Geschichte*, vol. 1 (Leipzig: Duncker und Humblot, 1883), 10.

language as a social human institution, an idea emphasised by Whitney, which emerged from his vehement rejection of earlier ‘organic’ models of language development like those promoted by Schleicher and Müller in their attempts to harness the prestige of the natural sciences. Though hermeneutics and structuralism rarely crossed paths in the twentieth century, they did come to similar conclusions about the relativity of meaning in literary texts, albeit via different intellectual lineages. When seen from this longer historical perspective, one thing that unites them may be their rejection of natural scientific models at their respective origins; in other words, both hermeneutics and structuralism concluded that the human sciences (*Geisteswissenschaften*) must operate with different principles to those found in the natural sciences. In this way, they resisted the seductive call of *Naturalisierung* and bravely set out upon a path of inquiry that better suited the linguistic and cultural materials with which they were dealing.⁹⁹ It remains to be seen what implications these historical facts may have for the new generation of theorists who are once again calling for a literary criticism based on Darwinian biology; at the very least, they would do well to consider why theorists of the late nineteenth century concluded that language and literature could not be properly understood using exclusively natural scientific models.

⁹⁹ In her important book *In Babel's Shadow*, Tuska Benes has examined, among other related topics, precisely this line of influence stemming from nineteenth-century philology and linguistics into twentieth-century structuralism (see, for example, 269-282, 290). Her analysis is, however, not primarily concerned with the rejection of Schleicher's and Müller's rhetoric of *Naturalisierung* that I have explored here.